

Patent claims

1. A switching device

- 5 - with a strip-shaped actuator element consisting
 of a shape memory alloy, into which a
 predetermined shape has been impressed at an
 annealing temperature and which is connected to a
 movable contact part of a switching contact,
 and
- 10 - with means for heating up the actuator element
 above a temperature level bringing about an
 opening of the switching contact on the basis of
 a change in shape of the actuator element,
 characterized by an actuator element (2),
- 15 a) into which an at least largely extended shape
 has been impressed at the annealing temperature,
 b) which has a curved shape in the operating state
 in which the switching function is not triggered
 and
- 20 c) which rests between its one end (2a), which is
 held fixed, and its other end (2b), which is
 facing the movable contact part (4a), on a
 deflecting element (5) with frictional
 engagement in such a way that the deflecting
- 25 element (5) exerts on the concave inner side of
 the actuator element (2) a counterforce (G)
 partially counteracting the curving of the
 latter.
- 30 2. The device as claimed in claim 1, characterized in
 that the actuator element (2) rests against the
 deflecting element (5) approximately in the center
 between its two ends (2a, 2b).
- 35 3. The device as claimed in claim 1 or 2,
 characterized in that the actuator element (2) is
 part of a current path and can be heated up by an

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overcurrent above the temperature level bringing about the opening of the switching contact.

4. The device as claimed in claim 1 or 2, characterized in that an indirect heating-up of the actuator element (2) is provided.

5. The device as claimed in one of the preceding claims, characterized in that a restoring spring (18) keeping the actuator element (2) in its curved shape in the operating state is provided.

10 6. The device as claimed in one of the preceding claims, characterized in that the actuator element (2) is connected to the movable contact part electrically by means of a stranded wire (17) and mechanically by means of a switching linkage (14).

15 7. The device as claimed in one of the preceding claims, characterized in that the actuator element consists of a shape memory alloy based on a NiTi or CuAl alloy.

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